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Bulbils and proembryo of Lamprothamnus.—Miss McNicol[31] has been cultivating *Lamprothamnus alopecuroides*, one of the Characeae, for several years, the plants producing an abundant supply of antheridia and oogonia. Very few of the oospores seemed capable of germination, and proembryos produced from them resemble those produced from the underground nodes. For the most part, reproduction takes place by means of proembryos that are formed on the rhizoid-nodes and make use of the starch stored in the tubercles, which arise either directly or as transformed rhizoids.—J. M. C.

Semipermeable membrane of grass seeds.—Brown[32] has published a preliminary account of a semipermeable membrane which incloses the grain of Hordeum, which permits the passage of water and iodin, but prevents the passage of sulfuric and hydrochloric acids and all salts of metals examined, when in aqueous solution. The semipermeable property is not due to the action of living protoplasm and is located in the "spermoderm" of the grain. The same covering occurs in grains of Avena, Triticum, and Secale. If these observations are correct, the "spermoderm" is a most remarkable structure.—J. M. C.

Synapsis and synizesis.—Following McClung, Schaffner[33] uses the term synizesis to describe the familiar contracted condition of the chromatin usually described as synapsis; while he reserves the term synapsis in a very restricted sense as applying to the chromatin fusions which take place during the contracted state. The synizetic knot is not always around or in contact with the nucleolus, and while usually lateral it is often central in position. Schaffner's figures show that the synizetic knot has no relation to gravity.—Charles J. Chamberlain.

Excentric growth.—Ursprung[34] records experiments calculated to throw some light on the cause of excentric growth of stems. Seedlings of Ricinus fixed in a horizontal position showed an excentric growth of the hypocotyl, with mechanical cells in the upper part and large thin-walled cells in the lower part. The reason for these appearances is not clear, for it has been shown that mere tension, such as would result in the present instance from the turgescence of the cells on the lower side, does not result in the production of mechanical tissue.—M. A. Chrysler.

Growth of lignified cell walls.—It is usually assumed that lignified cell walls, such as those of tracheids, are incapable of further growth. But this idea is negatived by the observation of URSPRUNG[35] that the pith of such plants as Sambucus and Tectona increases considerably in diameter after the wood cylinder is formed. This can be brought about only by expansion and division of the elements of the wood. The author holds that vessels can increase in diameter after they have lost their living contents.—M. A. CHRYSLER.

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[31] McNicol, Mary, The bulbils and proembryo of *Lamprothamnus alopecuroides* A. Braun. Annals of Botany **21**:61–70. *pl. 8.* 1907.

[32] Brown, A. J., On the existence of a semipermeable membrane enclosing the seeds of some of the Gramineae. Annals of Botany **21**:79–87. 1907.

[33] Schaffner, J. H., Synapsis and synizesis. Ohio Naturalist **7**:41–48. *pl. 4.* 1907.

[34] Ursprung, A., Beitrag zur Erklärung des excentrischen Dichenwachstums an Krautpflanzen. Ber. Deutsch. Bot. Gesells. **24**:498–501. 1906.

Waterbloom.—MÖBIUS[36] reports that for several years a waterbloom has appeared each summer in the botanical garden in Frankfurt, and that it is regularly composed of three species of Cyanophyceae: *Oscillatoria Agardhii* Gomont, *Anabaena flos-aquae* Bréb., and *Clathrocystis aeruginosa* Henfrey. The appearance of Oscillatoria in the association has not been noted hitherto. An abnormal form of *Cladophora crispata* (Roth.) Kütz. is also described.—CHARLES J. CHAMBERLAIN.

Abnormal mosses.—Two interesting abnormalities are described by GYÖRFFY,[37] collected in the High Tatra. A specimen of *Plagiobryum demissum* Lindb. shows the seta forking at the apex and carrying two perfect capsules; and one of *Polytrichum alpinum* L. has two setae, each carrying a normal capsule, both covered by a single calyptra. BRUCH records a like case in *P. juniperinum.* Obviously these forms have arisen from a single egg.—C. R. B.

Respiration.—KOSTYTSCHEW declares that in the aerobic respiration of the leaves of seed plants which contain mannit, hydrogen is produced; but in anaerobic respiration, even when very vigorous, not a trace is set free.[38] The experiments were designed to test the results of MUNTZ (1876) and DELUCA (1878), which antedated bacteriological knowledge, that H is produced by mannitiferous fungi and seed plants in anaerobic respiration.—C. R. B.

Anatomy of Urticaceae.—RENNER[39] has published a detailed account of the anatomy of Artocarpeae and Conocephaleae, paying special attention to Ficus. A systematic presentation of the tribes follows, the anatomical structure being used as a basis of discussion.—J. M. C.

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[35] URSPRUNG, A., Ueber die Dauer des primaren Dichenwachstums. Ber. Deutsch. Bot. Gesells. **24**:489–497. 1906.

[36] MÖBIUS, M., Algologische Beobachtungen über eine Wasserblüthe und eine Cladophora. Hedwigia **46**:279–287. 1907.

[37] GYÖRFFY, I., Bryologische Beiträge zur Flora der Hohen Tatra. IV. Hedwigia **46**:262. 1907.

[38] KOSTYTSCHEW, S., Zur Frage über die Wasserstoffausscheidung bei der Atmung der Samenpflanzen. Ber. Deutsch. Bot. Gesells. **24**:436–441. 1906.

[39] RENNER, OTTO, Beiträge zur Anatomie und Systematik der Artocarpen und Conocephaleen, insbesondere der Gattung Ficus. Bot. Jarb. **39**:319–448. 1907.